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What Happens When the Well Runs Dry?

Tight Times for Small Towns
page 8

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PERSPECTIVES

"MUTED OPTIMISM" SETS THE TONE FOR THE EXPORT OUTLOOK over the year ahead. Muted, for two reasons: the uncertain policy and trade environment, and recent world supply-demand developments that forced analysts to temper some of their earlier expectations for stronger volume increases. Yet, behind the caution, there's optimism, too, because fiscal 1987 (which began October 1) will almost certainly be a better year for U.S. agricultural exports than the one that just ended.

Lower average prices for major export commodities, such as wheat, corn, soybeans, and cotton, may keep our total export earnings from rising above fiscal 1986's $26.3 billion.

But competitive pricing has already yielded positive results for sales volume, according to ERS trade analyst Steve MacDonald. "Fiscal 1986 ended with 4 straight months of rising export volume," he reports, "as lower prices demonstrated their ability to boost sales." The impact will continue in the year ahead, he says, as "the lower prices enable the United States to capture an increased share of the world market for the first time since 1980." If he's right, it could be a sign that the long-awaited turnaround in exports is finally, albeit slowly, getting underway.

Higher export volumes are anticipated for U.S. feed grains, wheat and soybeans. Cotton volume should more than double from fiscal 1986's depressed level. The greater sales volumes will help offset the lower prices, says MacDonald. Current projections suggest that total tonnage of U.S. agricultural exports may rise about 6% in fiscal 1987—a significant shift given that tonnage has dropped steadily for the last 6 years in a row.

No one wants a repeat of fiscal 1986, when exports suffered from both lower prices and lower volumes. Volume fell to 110 million metric tons, the lowest since 1975. That was down from a high of 163.9 million tons back in fiscal 1980, and the declines were accelerating. In the last year alone (fiscal 1985 to 1986), export volume dropped 10% for U.S. wheat (unmilled), 34% for feed grains, and 62% for cotton. Soybeans did well though, with volume climbing 21%. Because lower volumes for most major commodities were compounded by lower prices, export value declines were especially sharp. "From 1984 to 1986," MacDonald notes, "we recorded the largest 2-year percentage drop in U.S. agricultural export earnings since the early 1940's."

Global export opportunities will probably expand slightly in the year ahead, but don't expect the competition to ease off, MacDonald cautions. "China, the world's largest grain producer, will be a net grain exporter for the second straight year. Recent projections also indicate that this year's Soviet grain crop will be the largest since 1978. That could mean another year of lower Soviet imports. Last year, for the first time since 1972, the USSR purchased less than 1 million tons of U.S. wheat." Looking at other commodities, MacDonald foresees "a probable rebound in foreign soybean production, which will trim prospects for our best performing farm export product of 1986."

The U.S. agricultural trade balance may stabilize in the year ahead, after dropping fairly steadily for the last 5 years. In fiscal 1986—for the 27th consecutive year—the U.S. recorded a surplus in exports over imports, but the margin was narrow. At $5.4 billion, the surplus was the smallest since 1972, reflecting both a sharp decline in export value and a record $20.9 billion in agricultural imports. The U.S. farm trade surplus peaked in fiscal 1981 at $26.6 billion.

Special note to readers: The 1986 Yearbook of Agriculture, *Research for Tomorrow*, is now available. In its 336 pages, it offers nearly two dozen articles on biotechnology in agriculture, as well as major sections on insects and weeds, human nutrition and food, forest resources, and careers in agriculture. Copies are available for $9.50 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Ask for the book by title and stock number 001-000-04472-9.

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AGRICULTURE . . . NATURAL RESOURCES . . . RURAL DEVELOPMENT
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FEATURES

Groundwater Irrigation: Where the Profits Are Drying Up *by Doug Martinez* 4

What happens when turning on the irrigation pump no longer helps farmers turn a profit? The Texas High Plains was the first major section of the nation to face this question, but aquifer levels are dropping rapidly and pumps are probing ever-deeper in 11 states beneath 14 million acres of farmland irrigated with groundwater.

Tight Times for Rural Governments *by Mark Brohan* 8

Many rural governments, particularly those in agricultural areas, are caught in a vise of rising costs and falling revenues. Declining farmland values and the ripple effects of a weak farm economy have whittled down their tax revenues, while rising unemployment and business failures on Main Street have increased the demand for public services.

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Groundwater Irrigation: Where the Profits Are Drying Up

About 33 percent of total U.S. harvested acreage of grapes is in fast-depleting groundwater areas.

What happens when turning on the pump for irrigation water no longer helps farmers turn a profit?

Faced with declining water levels and well yields, farmers in the Texas High Plains were among the first to ask themselves that question. Since the mid-1970's, producers there have halted groundwater irrigation on about 2 million acres, largely because of the "economic exhaustion" of the underground water reserves, or aquifers, they were "mining."

But the same question may soon be asked by other farmers—mostly in the Far West and Midwest—who are also encountering diminishing levels of groundwater stored in aquifers, and the greater costs of going deeper into the earth to draw it out.

"Aquifer levels have been dropping substantially in 11 states beneath 14 million acres of land irrigated from groundwater," says economist Gordon Sloggett, formerly of USDA's Economic Research Service. In these states—which account for 85 percent of the total U.S. acreage irrigated from aquifers—groundwater levels are falling from a half-foot to more than 5 feet each year.

By citing these figures, Sloggett and fellow researcher, ERS economist Clifford Dickason, aren't suggesting any serious danger to the state of food and fiber production in the United States.

"Groundwater levels do not seem to pose a significant national threat to irrigated agriculture in the foreseeable future," Sloggett says. "Still, major changes may be likely for the areas dependent on irrigation from underground aquifers, and some areas will be affected sooner and more extensively than others."

When Pumping No Longer Pays

Areas showing rapid rates of decline in groundwater levels and deep pumping depths are likely candidates for widespread change, Sloggett says.

"Pumping depths of more than 200 feet and sharply falling aquifer levels (more than 3 feet per year) are common in parts of Arizona, California, Idaho, Kansas, Texas, and the Oklahoma Panhandle." Other states with areas which may experience severe strains on groundwater resources further into the future are Arkansas, Colorado, Florida, Nebraska, and New Mexico.

Along with increased pumping costs and declining well yields, Sloggett says, farmers drawing water from progressively deeper wells find their pumping efficiency is decreasing. "In a problem area, the combination of these factors eventually will economically exhaust the groundwater resource. In other words, it will cost so much to bring the water up and put it on the crops that groundwater irrigation will no longer pay."

The Texas High Plains was the first major section of the country to feel these effects.

"Farmers in Texas began extensive use of groundwater for irrigation earlier than other Plains states," says Sloggett.

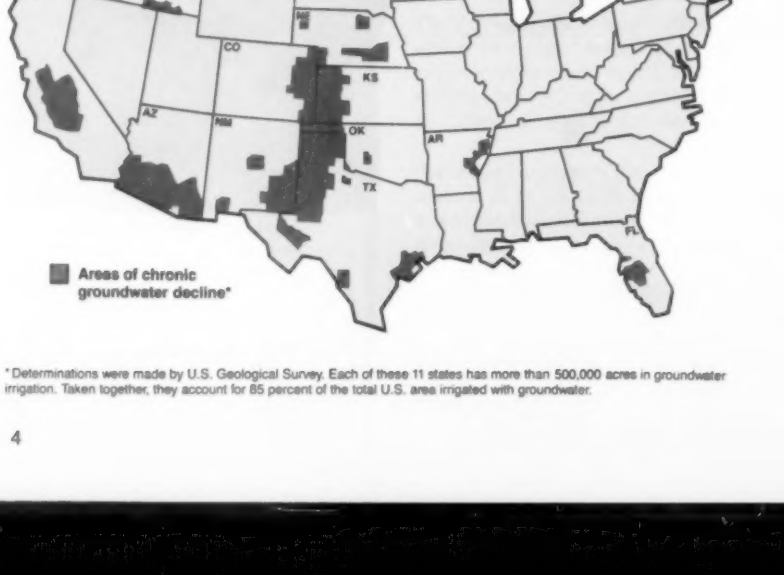
Moreover, "Texas relies more than any other state on natural gas for pumping, and the price of natural gas has risen much faster since the early 1970's than that for other types of energy."

The rate of groundwater decline in Texas now ranges from 1 to 4 feet per year. Instead of accelerating, though, this depletion trend shows signs of slowing. The average annual rate of decline has been reduced by about half a foot since the 1950's in the southern Texas High Plains, and by about three-quarters of a foot in the northern Texas High Plains.

Several factors have contributed to the slowdown.

"Well yields have dropped along with falling water levels, reducing the amount of water that may be pumped in a given period. Farmers have also become more efficient irrigators by adopting better irrigation techniques with existing technology and by shifting to more advanced technology, thereby cutting water application rates. Crops with lower water requirements are being substituted for crops with higher

The Major Areas of Groundwater Decline Are Concentrated in the Irrigation-Dependent Southwest



* Determinations were made by U.S. Geological Survey. Each of these 11 states has more than 500,000 acres in groundwater irrigation. Taken together, they account for 85 percent of the total U.S. area irrigated with groundwater.

Faced with declining water levels and well yields in large parts of the Southwest, many farmers have become more efficient irrigators.

water needs. And the amount of irrigated land has declined by about 15 percent in the last few years because of economic exhaustion of the aquifer in parts of the Texas High Plains," Sloggett says.

This pattern of slower groundwater declines may hold true in other affected areas as well.

"Although we don't have sufficient long-term data on annual water levels in most other groundwater mining areas," he says, "the rate of decline will likely slow in some of those areas because they share many of the conditions found in the Texas High Plains."

What Happens to Production?

In addition to identifying specific geographic areas where groundwater is being depleted in substantial quantities, the two researchers have also pinpointed the particular crops that may be affected.

"The impact on some crops would be more significant than on others," says economist Dickason.

Currently, the leading crops harvested in areas where groundwater levels are falling sharply are grapes, cotton, grain sorghum, citrus fruit, and rice. For grapes, 33 percent of total U.S. harvested acreage is in fast-depleting groundwater areas, for cotton 22 percent, for grain sorghum 16 percent, for citrus 15 percent, and for rice 13 percent.

Dickason says the effects on U.S. production of any of these crops would depend on available alternatives if farmers are eventually forced to discontinue irrigation from underground aquifers. These alternatives include growing the same crops under dryland conditions, switching to another crop that can be grown with available natural moisture, going out of crop production, or, in rare cases, irrigating from surface water sources such as rivers and reservoirs.

"These decisions and their timing depend on the profitability of irrigation and the groundwater characteristics peculiar to the respective areas," he says.

The other major option that farmers have at hand to cope with falling aquifer levels involves improved irrigation efficiency through better techniques and technologies.

The "Ultimate" System

"Efficiency relates to the amount of water that must be applied to the field to satisfy the water requirements of crops," Sloggett says. "Application efficiency of irrigation systems can range from 40 percent to more than 90 percent. If the 'ultimate' system were available, an irrigator would have to pump and apply only 1 acre-inch of water for every acre-inch needed to supply the crop requirement."

Of course, evaporation, runoff, seepage, and percolation of irrigation water below a crop's root zone all work against achieving the "ultimate" system. Nevertheless, small differences in irrigation efficiency levels can involve huge quantities of water—especially on farms with thousands of irrigated acres.

For an irrigation system that is 75 percent

(continued on next page)

Deep Wells and Sharply Declining Water Levels Are Common in the 11 States with Large Areas of Groundwater Irrigation

	Pumping depths[1]	Annual rates of decline[1]
	Feet	
Arizona	75-535	2.0-3.0
Arkansas	50-120	0.5-1.3
California	100-260	0.5-3.5
Colorado	175-275	2.0
Florida	250	2.5
Idaho	200-375	1.1-5.0
Kansas	190-275	1.0-4.0
Nebraska	25-250	0.5-2.0
New Mexico	100-200	1.0-2.5
Oklahoma	100-275	1.0-2.5
Texas	50-300	1.0-4.0

[1]These figures show the range of *average* pumping depths and rates of decline in different parts of each state. The overall state average and the unaveraged lows and highs may be outside the indicated ranges.

How Crop Production Might Adjust When It No Longer Pays to Pump

What's ahead for the areas most affected by chronic, but not yet crippling, groundwater declines?

ERS economist Clifford Dickason offers the following capsule comments:

- Dryland grain sorghum is a practical alternative to irrigated cotton in much of Texas. Irrigated wheat would probably go to dryland wheat, except in Arizona and California. Nearly all the corn and alfalfa grown in groundwater irrigated states other than Nebraska could not be grown without irrigation because rainfall is not sufficient for dryland production. Dryland corn is a feasible alternative to irrigated corn in much of Nebraska.
- Much of the acreage devoted to irrigated corn and alfalfa in Colorado, Kansas, New Mexico, Oklahoma, and Texas would probably be used for the dryland production of grain sorghum or wheat. Almost no crops can be produced without irrigation in the desert areas of Arizona, California, and New Mexico. Rice in Arkansas and Texas, citrus in Florida, and grapes in California could not be grown profitably in their present locations without irrigation.
- Crop production will adjust gradually to declining groundwater levels. Adequate time exists to relocate the production of affected crops to areas that will support their production. For example, areas in California with adequate water supplies and climate could pick up any lost grape and citrus production. Rice production in Arkansas and Texas might transfer to other parts of those states or to other rice-producing states. Grain crop production could be transferred to other grain-producing states.

A circular sprinkler system operates on this farm near Amarillo, Texas. Since the mid-1970's, the "economic exhaustion" of aquifers in the Texas High Plains has forced farmers to halt irrigation on 2 million acres.

efficient, 1.33 acre-inches of water have to be pumped and distributed to meet a 1-acre-inch crop requirement. If an irrigator uses a 40-percent efficient system, 2.5 acre-inches of water would have to be drawn and distributed to meet a requirement of 1 acre-inch. (Irrigation water requirements range from 12 to 60 acre-inches per year, depending on crop and geographic area.)

"All farm operators would presumably choose the most efficient system," Sloggett says. "But what is most economically efficient for one irrigator may not be so for another." That's because the physical properties of the land irrigated and equipment costs may prompt farmers to make different choices.

"For example, in some locales, irrigators who can pump and distribute irrigation water cheaply with an unimproved gravity system may use this physically inefficient system at lower total cost than a more efficient system," says Sloggett.

However, gravity irrigation systems require land with enough water-holding properties to allow water applied at one end of the field to flow to the other end without too much water percolating below a crop's root zone. Thus, irrigators with very porous, sandy soils cannot use gravity systems and must use high-cost sprinklers.

The Affordability Factor

"Capital costs may also dictate the choice of irrigation system," says Sloggett. Sprinkler or improved gravity systems generally require much larger investments than an unimproved gravity system.

"But as water levels and well yields decline, irrigation water costs are rising, making the more technically efficient sprinkler systems increasingly appealing to the irrigator," he says. Improved efficiency can mean—and make—the difference between continuing with groundwater irrigation or halting it completely.

"Although farmers need not be confronted by declining water levels to consider adopting more efficient irrigation systems, they have more incentive to do so if their irrigation water costs are increasing faster than those of other irrigators."

Even so, efficiency can prolong the productive capacity of aquifers for just so much longer—and only if farmers do not use the "extra" water they've saved simply to expand acreage, which is sometimes done.

"As well yields gradually decline," Sloggett says, "irrigation in more areas will begin to fall off as well." □

[Based primarily on information provided by former ERS economist Gordon Sloggett, now with Oklahoma State University, and economist Clifford Dickason of the Natural Resource Economics Division, Economic Research Service.]

What the States Are Doing About It

For 50 years, lakes of water have been lifted from underground reservoirs to irrigate farmland.

High-volume turbine pumps developed half a century ago made this possible—and also made possible, and profitable, the production of crops in desert areas of Arizona, California, and New Mexico. In other states and places, intensive irrigation has extended agricultural acreage and boosted yields.

But it has also depleted groundwater reserves, which have been accumulating over millions of years to become the sometimes enormous, earth-bound quantities of water they are today.

More rapidly than it can be replaced in many areas, groundwater held in aquifers is being removed.

Buried beneath the earth's surface, aquifers don't readily receive the melting snow and rainfall that annually replenish lakes, rivers, streams, and above-ground reservoirs. Melting snow and rainfall may eventually reach aquifers, but much more slowly.

Some states are trying to reduce the demand on aquifers. California, for example, is currently transferring surface water directly into areas with declining water levels. And the Central Arizona Project, once completed, will shift surface water to parts of that state where water levels are fast falling.

Obviously, such efforts may help extend the life of aquifers—and their agricultural use—in these areas. In similarly affected areas which cannot (or choose not to) build surface-water transfer projects, other alternatives must be sought to deal with problems created by reduced groundwater supplies.

Several states, at least, are limiting both the amount of water that may be pumped for irrigation, and the wells that may be drilled. Of the 11 states with major areas of groundwater decline, nine (Arkansas and California are the two exceptions) have placed restrictions on groundwater irrigation use.

Arizona has enacted the toughest laws, requiring gradual reductions in the use of groundwater for irrigation. Such reductions are to be accomplished by mandatory water conservation or by the removal of land from irrigated crop production.

It's obvious that agriculture does not always speak with a single voice in regard to groundwater protection laws. Conservation measures hurt in the short run, but they may help prolong the viability of irrigation agriculture in many of the areas where groundwater is now being depleted.

Downstream Benefits of Curbing Erosion

When soil from a farm is eroding into rivers, streams, and reservoirs, the farmer isn't the only one who suffers the loss.

The plants, animals, businesses, and people downstream may also pay a heavy price, according to agricultural economist Marc Ribaudo of USDA's Economic Research Service.

Soil erosion on farms can put sediment, fertilizers, and pesticides into waterways. These "pollutants," says Ribaudo, cause a number of problems. They can silt up reservoirs, block navigation channels, add to flood risks, threaten aquatic plants and animals, reduce the commercial fish catch, damage recreational swimming, boating, and fishing areas, and raise the costs of municipal water treatment.

Ribaudo contends that agriculture is responsible for a large portion of the more than $7 billion in "offsite" damage caused by soil eroding into U.S. waterways. And if the costs of erosion reach beyond the farmgate, he reasons, the benefits of conservation have a wider impact, too.

Small reductions in overall erosion could generate sizable benefits—especially when the productivity gains from less erosion on the farm are added to the offsite advantages of less sediment and fewer pollutants entering waterways.

Soil conservation efforts made in 1983 generated around $340 million in offsite benefits alone, based on the estimating procedures used by Ribaudo.

Reducing Soil Erosion *by Marc O. Ribaudo. (Published September 1986; 24 pages; GPO Stock No. 001-019-00468-1; $1.75.)*

A Small Market with Growth Potential

The Ivory Coast in tropical West Africa is no bigger than New Mexico. Its population barely exceeds 10 million. As a market for American agricultural products, it is very small. Its purchases peaked at about $20 million in 1978—less than one-tenth of 1 percent of the total value of U.S. farm exports.

There is another perspective, however, suggesting that the Ivory Coast may be one of many small nations that deserve the attention of American traders surveying future opportunities for agricultural exports.

The former French colony, for example, has one of the highest rates of real economic growth on the African continent. Although it carriers a large foreign debt, it is the world's largest producer and exporter of cocoa, and the third largest of coffee. Rising incomes, a rapidly growing population, continuing migration from rural to urban areas, and the demand for more variety in the diet will generate greater demand for agricultural imports in years ahead.

France remains the major supplier, and, so far, the United States has been a marginal player. The U.S. share has ranged from 2 to 7 percent of the Ivory Coast's total agricultural imports—figures that leave a lot of room for improvement.

Economists Michael Trueblood and Nadine Horenstein predict that import growth over the next several years will be led by rice and wheat. France has a lock on wheat, they say, but the U.S. market share for rice could improve with the decline in the value of the dollar and the new lower U.S. rice prices.

With competitive pricing, some U.S. beef and high-quality tobacco would also sell. In processed foods, the United States has not fared well partly because Ivory Coast consumers prefer product labels in their official language—French—and are accustomed to metric weights and container sizes. French labeling and metric packaging could lead to some U.S. sales of preserved milk and vegetables.

In time, there may also be a need to import premixed grains for the country's growing poultry industry—another possible opening for U.S. exporters.

The Ivory Coast: An Export Market Profile *by Michael Trueblood and Nadine Horenstein. (Published September 1986; 32 pages; GPO Stock No. 001-019-00471-1; $2.25.)*

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Tight Times for Rural Governments

Good roads, a school system, and adequate police and fire protection are among the basic services taxpayers have come to expect from their local government. If a pothole needs patching or a street sign needs fixing, they depend on city hall to take care of the problem.

But in some parts of the country—namely in the rural areas where agriculture makes up a large portion of the economic base—local governments are having a much tougher time funding these services.

Declining farmland values and the ripple effects of a weak farm economy have whittled down the tax revenues of many western and midwestern communities, according to Tom Stinson, until recently an economist with USDA's Economic Research Service and now an economics professor at the University of Minnesota. At the same time, Stinson adds, rising farm sector unemployment has increased the demand for public services in such areas as education, job retraining and placement, and mental health counseling.

The analyst suggests that many governmental units, primarily county governments and school boards, are being caught in a financial vise of rising costs and falling revenues. The elimination of the federal revenue sharing program—until recently a key source of money for some counties, cities, and townships—and possible cuts in state aid add to their concerns.

As a result, Stinson says, many rural governments face the possibility of substantial belt-tightening for the rest of the 1980's, and possibly beyond.

Declining farmland values account for much of the reduction in tax revenues. The value of an average acre of U.S. farmland has fallen from a peak of $823 in 1982 to $586 early this year.

In much of the United States, property taxes account for about 27 percent of local tax revenues, but this figure can average 50 to 70 percent in some parts of the West and Midwest.

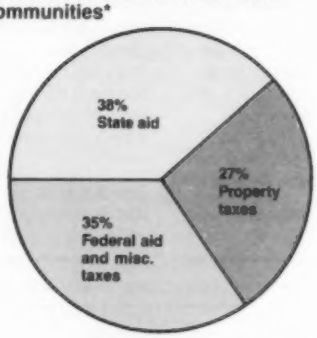
Some Findings

Stinson analyzed tax bases in agriculture-dependent rural counties of Arkansas, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, and North Dakota. Among his findings:

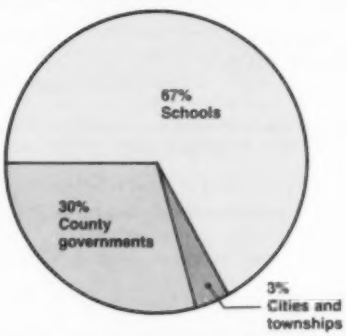
Many rural governments and school systems are caught in a financial vise of rising costs and falling revenues.

- Tax delinquency rates have increased substantially. The dollar value of overdue taxes more than doubled in parts of Iowa and Minnesota between 1980 and 1985. In some Nebraska counties, delinquencies rose 70 percent in the same period.

Sources of Revenue for All Rural Communities*



How Farm Property Taxes Are Spent in Some Select Communities▲



* Source: U.S. Department of Commerce, 1982 Census of Governments.

▲ Percentage figures are based on tax base analysis for select counties and crop reporting districts in Arkansas, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, and North Dakota.

- Based on 1982 levels of local government spending, declines in agricultural property values over the last few years could have produced a combination of tax increases and expenditure cuts in some areas that range from $13 to $199 per person.

"The decline in farmland values has been well documented for several years, but it's only now that rural cities and counties are realizing they have a problem," Stinson says. "That's because assessed land values in some areas are only adjusted periodically."

Alternative Sources Strained

Falling property tax revenues alone probably wouldn't put many rural communities on the edge of financial hardship, Stinson says. When reduced tax revenues coincide with cuts in income from other sources, however, local governments may be forced to trim budgets and raise tax rates—a situation currently facing some school boards, townships, and county governments in Arkansas, Minnesota, and Nebraska.

Although figures vary from state to state, rural communities presently count on state aid for an average of about 38 percent of their revenue base. Federal aid, miscellaneous taxes, and user fees make up about 35 percent, and property taxes the remaining 27 percent.

In the past, many fiscally strapped local governments looked to the state or federal government for help. But many states are also experiencing budget woes. Stinson notes that in six of the eight states he studied, budget officials announced midyear service reductions because of less-than-expected revenues.

On the national level, aid cutbacks have also been underway. According to the economist, federal aid to state and local governments—when measured in 1972 constant dollars—has declined by about 17 percent, from $218 billion in 1980 to about $180 billion in 1985.

The major source of federal aid was the revenue sharing program. Since the program began in 1973, about $85 billion has been pumped into state, county, and city budgets. Many cities and counties used the

School systems are often hit particularly hard by the decline in property tax revenue in rural areas where agricultural land values have plummeted.

money as a "rainy day" source of income for budget balancing and unexpected expenses.

But federal budget concerns resulted in the program's elimination. Stinson notes that as federal lawmakers strive to meet deficit reduction targets established by the Gramm-Rudman-Hollings Act, any increase in federal aid for existing programs is unlikely.

Balancing Act

The economist predicts that county governments and school systems will be most directly affected by aid cutbacks and tax declines. In the areas Stinson studied, about 67 percent of farm-generated property taxes went to fund the local school system, another 30 percent went to the county government, and the remaining 3 percent to townships for services such as highway repair and police and fire protection.

According to Stinson, agricultural communities will also be hard pressed to keep up with an increased demand for social services caused by the weak farm sector.

Moreover, when farm incomes fall, Main Street businesses suffer too. Local unemployment increases, and that hurts commerce. Until the overall farm economy improves, he notes, small-town officials will have to pinch pennies and search for alternative forms of revenue, wherever possible.

Stinson says that communities in grain-producing states like Iowa, Kansas, Nebraska, North Dakota, Minnesota, and Arkansas will face the biggest challenge to keep municipal services intact. Local governments dependent on farm-generated property taxes in other states may have less of a problem because of their more diversified economies.

"Still, for many communities where agriculture is the main source of income, even modest percentage reductions in agricultural property values can have major impacts on local governments," Stinson says. "The downturn in agricultural property values and the accompanying decrease in local tax bases have the potential to permanently change the quality of life in many parts of rural America if left unchecked." □

[*Based largely on information supplied by Tom Stinson, formerly an economist with the Agriculture and Rural Economics Division, Economic Research Service, and now a professor in the Agriculture and Applied Economics Department at the University of Minnesota, St. Paul.*]

Holding Their Own in Fulda, Minn.

How are farm communities coping with declines in local government revenues?

For some insight, economist Tom Stinson looked at the tax base of Fulda, Minnesota, a town of about 1,300 people located in the southwestern part of the state.

"In Fulda, agricultural problems have affected local business sales, employment, real estate values, property tax rates, and demands for service," Stinson says. "Since 1979, surrounding farmland values have declined by 50 percent, and property tax delinquencies have skyrocketed."

In 1985, a large increase in local government expenses required an 8-percent increase in local taxes, says the analyst. An additional 2-percent increase could be a possibility in late 1986 or early 1987.

Retail sales declined by 55 percent from 1979 to 1984, falling from $7.5 million to $3.4 million. Since 1985, five businesses and a bank have closed, eliminating 21 jobs.

"We've been hard hit, but the town's not broke, and we're holding our own," says Fulda Mayor Mary Magnus. "We've had to reduce our spending on some programs, but so far volunteer efforts have made the effects minimal."

According to Stinson, many rural communities are now using better accounting and money management practices in an effort to stretch budget dollars.

In Fulda, notes Magnus, the town's annual budget has avoided large deficits in recent years because of an increase in utility fees, public employee wage reductions, and the establishment in 1984 of a contingency fund for emergency situations.

Still, the town got some bad news recently when it learned that assessed land values inside the city limits could decrease by about 11 percent for the 1986-87 fiscal year.

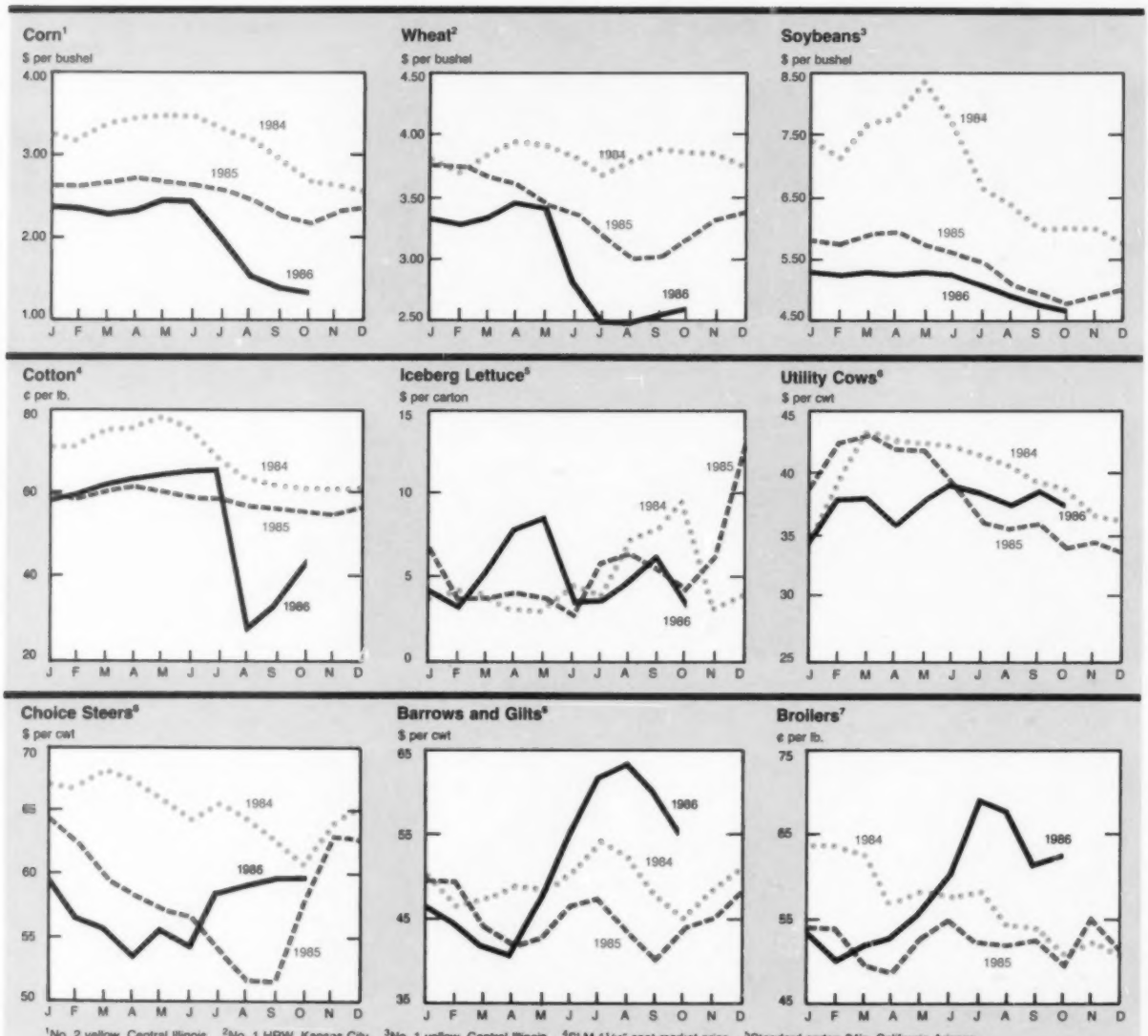
But the mayor and the four-member city council have formed two ad hoc committees charged with heading off potential budget problems. Plans are also in the works to foster tourism by securing a state grant. The goal: renovate one of the town's older homes into a bed-and-breakfast establishment.

"We're still a farm-dependent community, and cutbacks in federal and state aid have hurt us," Magnus says. "But our sense of community has deepened. We plan on getting through this crisis together."

FARMLINE TRENDS

Monthly Price Monitor

USDA's October index of farm prices declined 0.8% from September and was 1.6% below its year-earlier level. Corn, at $1.33, lost 2¢ per bushel, while wheat gained 8¢ to $2.61. Soybeans dropped 10¢ in October to $4.67. Cotton rose 10¢ to 43.9¢ per lb. Lettuce prices, at $3.44 per carton, were the lowest since June 1985. In the meat animals area, utility cow prices dropped to $37.37 per cwt, while choice steers continued to inch up toward $60. Barrows and gilts slipped to $55.15, still more than $10 above their year-earlier level but down sharply from their August 1986 peak of $63.68. After declining for 2 straight months, broilers rallied slightly to 62.5¢ a lb., up 12¢ from a year earlier. All prices shown are monthly averages.

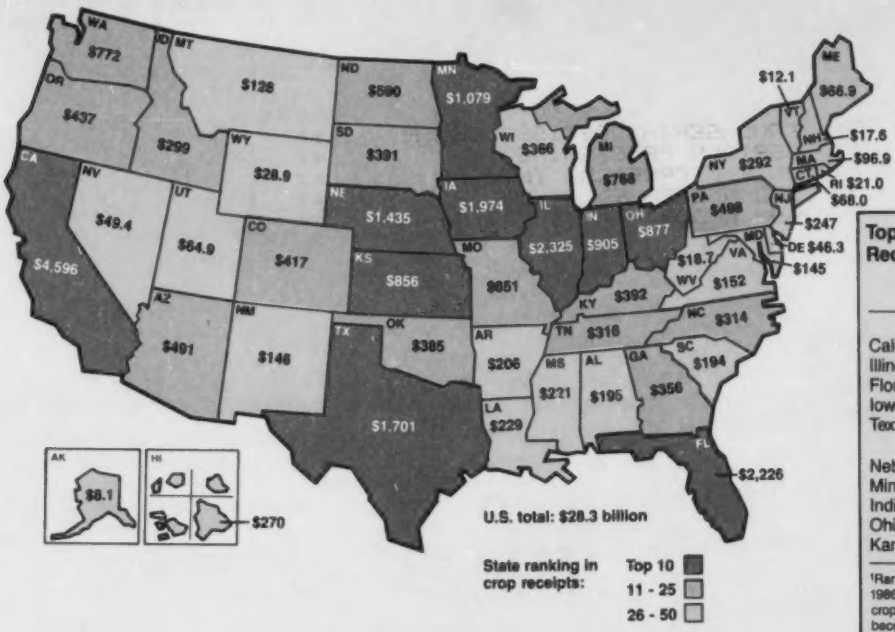


[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1 1/16" spot market price. [5]Standard carton 24's, California-Arizona. [6]Omaha. [7]Wholesale, New York.

Keeping Track of Cash Receipts

Cash Receipts for Crops, January-July 1986

All figures in millions (000,000)



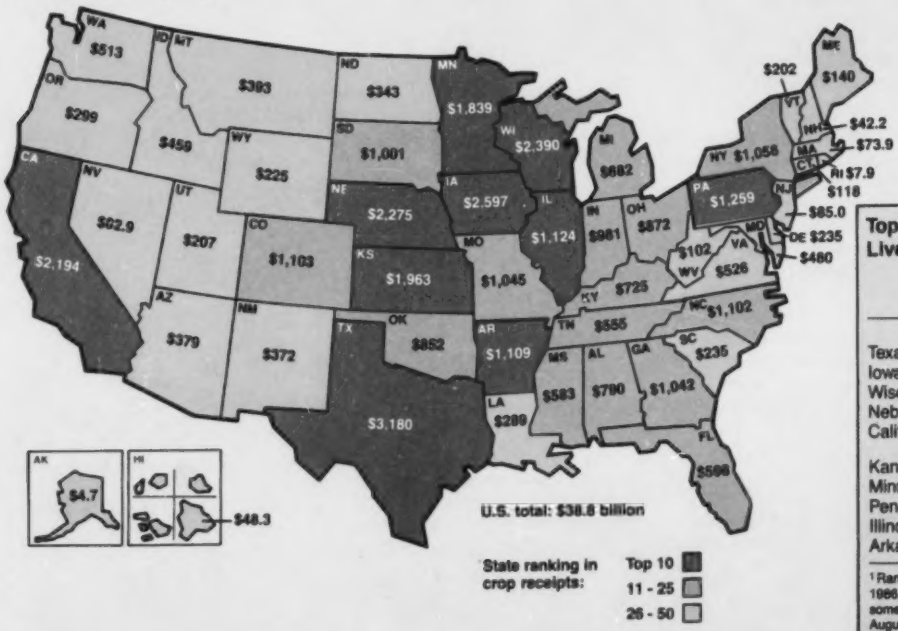
Top Ten States in Jan.-July Crop Receipts[1]

	Jan.-Dec.		Jan.-July
	1984	1985	1986
		$millions	
California	9,944	9,805	4,596
Illinois	4,482	5,704	2,325
Florida	3,642	3,726	2,226
Iowa	3,924	4,390	1,974
Texas	3,569	3,857	1,701
Nebraska	2,510	3,093	1,435
Minnesota	2,728	3,102	1,079
Indiana	2,426	2,869	905
Ohio	1,989	2,430	877
Kansas	2,406	2,478	856

[1]Rankings are based on marketings for January-July 1986, which excludes peak marketing periods for some crops and some states. As data for August-December become available, 1986 rankings may shift to more closely match full-year rankings for 1984 and 1985.

Cash Receipts for Livestock and Poultry, January-July 1986

All figures in millions (000,000)



Top Ten States in Jan.-July Livestock and Poultry Receipts[1]

	Jan.-Dec.		Jan.-July
	1984	1985	1986
		$millions	
Texas	5,901	5,441	3,180
Iowa	5,015	4,811	2,597
Wisconsin	4,075	4,100	2,390
Nebraska	4,524	4,113	2,275
California	4,529	4,165	2,194
Kansas	3,614	3,264	1,963
Minnesota	3,360	3,370	1,839
Pennsylvania	2,242	2,184	1,259
Illinois	2,173	2,063	1,124
Arkansas	1,885	1,825	1,109

[1] Rankings are based on marketings for January-July 1986, which may exclude peak marketing periods for some states and some commodities. As data for August-December become available, 1986 rankings may shift to more closely match full-year rankings for 1984 and 1985.

Data were provided by economist Bob Williams of the Farm Income Estimating Section, Economic Research Service.

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